

CLAIMS

1. A method (400) for encoding a macroblock having a plurality of partitions, the method comprising:

5 inter-coding (426) at least one of said plurality of partitions; and
intra-coding (428) at least a second of said plurality of partitions wherein said intra-coding comprises providing a reference picture index that is associated with a weighting factor of zero.

10 2. A method as defined in Claim 1 wherein said macroblock comprises video data in compliance with the Joint Video Team ("JVT") standard.

3. A method as defined in Claim 1 wherein said macroblock comprises a non-intra macroblock type.

15 4. A method as defined in Claim 1 wherein said intra-coding comprises non-predictive intra-coding performed within a weighted prediction encoding mode by using a weighting factor of zero with a weighted prediction tool from at least one of the Main and Extended profiles of the JVT standard.

20 5. A method as defined in Claim 4, further comprising coding a zero differential motion vector for a partition that is non-predictively intra-coded.

25 6. A method as defined in Claim 1 wherein the inter-coded at least one of said plurality of partitions has a reference picture index associated with a non-zero valued weighting factor.

30 7. A method as defined in Claim 6, further comprising deciding between inter-coding and non-predictive intra-coding of a partition in response to a measure of cost for each coding method.

8. A method as defined in Claim 1, further comprising:
associating a plurality of reference picture indices with a particular reference
picture store using reference picture reordering commands; and
assigning a zero weight to one of the plurality of reference picture indices and
5 non-zero weights to the other reference picture indices.

9. A method (400) for encoding a macroblock having at least one partition,
the method comprising non-predictively intra-coding (428) the at least one partition by
providing a reference picture index that is associated with a weighting factor of zero.
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10. A method as defined in Claim 9 wherein said non-predictive intra-coding
is performed within a weighted prediction encoding mode by using a weighting factor
of zero with a weighted prediction tool from at least one of the Main and Extended
profiles of the JVT standard.
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11. A video encoder (200, 300) for mixed inter/intra encoding of a
macroblock having a plurality of partitions, the encoder comprising:
a reference picture weighting applicator (292, 392); and
a reference picture weighting factor unit (272, 372) in signal communication
20 with the reference picture weighting applicator for assigning weighting factors
corresponding to each of the mixed inter and intra coded partitions, respectively.

12. A video encoder as defined in Claim 11, further comprising a motion
compensation unit (290, 390) in signal communication with the reference picture
weighting applicator for providing at least one each of a motion compensated inter
25 and intra coded partition, respectively.

13. A video encoder as defined in Claim 12, further comprising a reference
picture store (270, 370) in signal communication with each of the reference picture
weighting factor unit and the motion compensation unit for storing at least one each
30 of a motion compensated inter and intra coded partition, respectively.

14. A video encoder as defined in Claim 12 wherein the reference picture weighting applicator applies a weighting factor selected by the reference picture weighting factor unit to at least one of the motion compensated inter and intra coded partitions, respectively.

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15. A video encoder as defined in Claim 14 usable with bi-predictive picture predictors, the encoder further comprising prediction means for forming first and second predictors from the at least one weighted and motion compensated inter/intra coded partition.

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16. A video encoder as defined in Claim 11, further comprising:
inter-coding means for inter-coding at least one partition of a macroblock; and
intra-coding means for intra-coding at least a second partition of the
macroblock.

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17. A video encoder as defined in Claim 16 wherein said macroblock comprises video data in compliance with the Joint Video Team ("JVT") standard.

18. A video encoder as defined in Claim 16 wherein said macroblock
20 comprises a non-intra macroblock type.

19. A video encoder as defined in Claim 16 wherein said intra-coding means comprises indexing means for providing a reference picture index that is associated with a weighting factor of zero.

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20. A video encoder as defined in Claim 16, further comprising non-predictive intra-coding means for coding a zero differential motion vector for a partition that is non-predictively intra-coded.

21. A video encoder as defined in Claim 16 wherein the inter-coded at least
30 one of said plurality of partitions has a reference picture index associated with a non-zero valued weighting factor.

22. A video encoder as defined in Claim 21, further comprising decision means for deciding between inter-coding and non-predictive intra-coding of a partition in response to a measure of cost for each coding method.

5 23. A video encoder as defined in Claim 16, further comprising:
reference picture reordering means for associating a plurality of reference picture indices with a particular reference picture store using reference picture reordering commands; and

10 weighting means for assigning a zero weight to one of the plurality of reference picture indices and non-zero weights to at least one other reference picture index.

24. A video encoder (200, 300) for non-predictive intra encoding of a macroblock having at least one partition, the encoder comprising:

a reference picture weighting applicator (292, 392); and

15 a reference picture weighting factor unit (272, 372) in signal communication with the reference picture weighting applicator for assigning weighting factors corresponding to the at least one non-predictive intra coded partition.

20 25. A video encoder as defined in Claim 24, further comprising non-predictive intra-coding means for intra-coding the at least one partition by providing a reference picture index that is associated with a weighting factor of zero.

25 26. A method as defined in Claim 25 wherein said non-predictive intra-coding is performed within a weighted prediction encoding mode by using a weighting factor of zero with a weighted prediction tool from at least one of the Main and Extended profiles of the JVT standard.

27. An apparatus for encoding a macroblock having a plurality of partitions comprising:

30 means for inter-coding (426) at least one of said plurality of partitions; and
means for intra-coding (428) at least a second of said plurality of partitions,
wherein said means for intra-coding utilizes a reference picture index that is associated with a weighting factor of zero.